

Listing of Claims:

1. (Original) An electrically conducting gas diffusion substrate comprising an electrically conducting porous structure and a first catalytic component, characterised in that the first catalytic component comprises a first catalyst supported on an electrically non-conducting support.
2. (Original) A gas diffusion substrate according to claim 1 wherein the first catalyst is a gas-phase catalyst.
3. (Previously Presented) A gas diffusion substrate according to claim 1 wherein the first catalyst is one or more noble metals or non-noble metals or a combination thereof.
4. (Previously Presented) A gas diffusion substrate according to claim 1 wherein the first catalyst is one or more metals selected from the group consisting of platinum, palladium, ruthenium, rhodium, gold, chromium, molybdenum, nickel and manganese or a combination thereof.
5. (Previously Presented) A gas diffusion substrate according to claim 1 wherein the electrically non-conducting support is an oxidic support.
6. (Original) A gas diffusion substrate according to claim 5 wherein the oxidic support is alumina, silica, ceria, zirconia, an oxide of iron, a manganese oxide or titania.
7. (Previously Presented) A gas diffusion substrate according to claim 1 wherein the porous structure is a woven or non-woven fibrous material.
8. (Previously Presented) A gas diffusion substrate according to claim 1 wherein the porous structure is formed from a polymer.
9. (Previously Presented) A gas diffusion substrate according to claim 1 wherein the porous structure is a metal mesh.

10. (Previously Presented) A gas diffusion substrate according to claim 7 wherein the porous structure further comprises a filler material.
11. (Previously Presented) A gas diffusion substrate according to claim 1 wherein the first catalytic component is embedded within the porous structure.
12. (Previously Presented) A gas diffusion substrate according to claim 1 wherein the first catalytic component is applied to the porous structure as a surface layer.
13. (Original) A gas diffusion substrate according to claim 12 wherein the first catalytic component is mixed with electrically conducting particles.
14. (Withdrawn) A process for the preparation of a gas diffusion substrate according to claim 1, said process comprising in-filling a pre-formed porous structure with the first catalytic component or applying the first catalytic component to the surface of a pre-formed porous structure.
15. (Previously Presented) A gas diffusion electrode comprising an electrically conducting gas diffusion substrate as claimed in claim 1 and a second catalytic component.
16. (Original) A gas diffusion electrode according to claim 15 wherein the second catalytic component comprises an electrocatalyst.
17. (Previously Presented) A gas diffusion electrode according to claim 15 wherein the second catalytic component is a precious metal or a transition metal as the metal or metal oxide, either unsupported or supported in a dispersed form on a carbon support; a carbon or an organic complex, in the form of a high surface area finely divided powder or fibre, or a combination of thereof.
18. (Previously Presented) A gas diffusion electrode according to claim 17 wherein the second catalytic component is a platinum/ruthenium alloy supported on carbon black or platinum supported on carbon black.

19. (Previously Presented) A membrane electrode assembly comprising a gas diffusion electrode as claimed in claim 15, a second gas diffusion electrode, and a solid polymer membrane.
20. (Previously Presented) A membrane electrode assembly comprising a gas diffusion electrode as claimed in claim 15, a gas diffusion substrate and a solid polymer membrane, wherein an electrocatalyst layer is applied to the side of the membrane facing the gas diffusion substrate.
21. (Previously Presented) A membrane electrode assembly comprising a gas diffusion substrate as claimed in claim 1, a gas diffusion electrode and a solid polymer membrane, wherein an electrocatalyst layer is applied to the side of the membrane facing the gas diffusion substrate.
22. (Previously Presented) A membrane electrode assembly comprising a gas diffusion substrate as claimed in claim 1, a second gas diffusion substrate, and a solid polymer membrane, wherein an electrocatalyst layer is applied to both sides of the solid polymer membrane.
23. (Previously Presented) A fuel cell comprising a gas diffusion substrate as claimed in claim 1.
24. (Previously Presented) A fuel cell comprising a gas diffusion electrode as claimed in claim 15.
25. (Previously Presented) A fuel cell comprising a membrane electrode assembly as claimed in claim 19.
26. (Previously Presented) A gas diffusion substrate according to claim 8 wherein the porous structure further comprises a filler material.
27. (Previously Presented) A gas diffusion substrate according to claim 9 wherein the porous structure further comprises a filler material.

28. (Previously Presented) A gas diffusion electrode according to claim 16 wherein the second catalytic component is a precious metal or a transition metal as the metal or metal oxide, either unsupported or supported in a dispersed form on a carbon support; a carbon or an organic complex, in the form of a high surface area finely divided powder or fibre, or a combination of thereof.
29. (Previously Presented) A membrane electrode assembly comprising a gas diffusion electrode as claimed in claim 16, a second gas diffusion electrode, and a solid polymer membrane.
30. (Previously Presented) A membrane electrode assembly comprising a gas diffusion electrode as claimed in claim 17, a second gas diffusion electrode, and a solid polymer membrane.
31. (Previously Presented) A membrane electrode assembly comprising a gas diffusion electrode as claimed in claim 18, a second gas diffusion electrode, and a solid polymer membrane.
32. (Previously Presented) A membrane electrode assembly comprising a gas diffusion electrode as claimed in claim 16, a gas diffusion substrate and a solid polymer membrane, wherein an electrocatalyst layer is applied to the side of the membrane facing the gas diffusion substrate.
33. (Previously Presented) A membrane electrode assembly comprising a gas diffusion electrode as claimed in claim 17, a gas diffusion substrate and a solid polymer membrane, wherein an electrocatalyst layer is applied to the side of the membrane facing the gas diffusion substrate.
34. (Previously Presented) A membrane electrode assembly comprising a gas diffusion electrode as claimed in claim 18, a gas diffusion substrate and a solid polymer membrane, wherein an electrocatalyst layer is applied to the side of the membrane facing the gas diffusion substrate.

35. (Previously Presented) A fuel cell comprising a gas diffusion substrate as claimed in claim 2.
36. (Previously Presented) A fuel cell comprising a gas diffusion substrate as claimed in claim 3.
37. (Previously Presented) A fuel cell comprising a gas diffusion substrate as claimed in claim 4.
38. (Previously Presented) A fuel cell comprising a gas diffusion substrate as claimed in claim 5.
39. (Previously Presented) A fuel cell comprising a gas diffusion substrate as claimed in claim 6.
40. (Previously Presented) A fuel cell comprising a gas diffusion substrate as claimed in claim 7.
41. (Previously Presented) A fuel cell comprising a gas diffusion substrate as claimed in claim 8.
42. (Previously Presented) A fuel cell comprising a gas diffusion substrate as claimed in claim 9.
43. (Previously Presented) A fuel cell comprising a gas diffusion substrate as claimed in claim 10.
44. (Previously Presented) A fuel cell comprising a gas diffusion substrate as claimed in claim 11.
45. (Previously Presented) A fuel cell comprising a gas diffusion substrate as claimed in claim 12.

46. (Previously Presented) A fuel cell comprising a gas diffusion substrate as claimed in claim 13.
47. (Previously Presented) A fuel cell comprising a gas diffusion electrode as claimed in claim 16.
48. (Previously Presented) A fuel cell comprising a gas diffusion electrode as claimed in claim 17.
49. (Previously Presented) A fuel cell comprising a gas diffusion electrode as claimed in claim 18.
50. (Previously Presented) A fuel cell comprising a membrane electrode assembly as claimed in claim 20.
51. (Previously Presented) A fuel cell comprising a membrane electrode assembly as claimed in claim 21.
52. (Previously Presented) A fuel cell comprising a membrane electrode assembly as claimed in claim 22.